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ABSTRACT

A longitudinal survey that was part of a larger British research project on the perception of textual cohesion has yielded some insights into the reading problems of students on both sides of the primary/secondary school line. Subjects were 1,355 children, ages 8, 10, and 13. Two booklets for junior school and two for secondary school students were specially prepared using material frequently used in school texts. Each pair consisted of one booklet of factual material and one of fictional material. The cohesive ties of the books were selected and deleted to create a cloze instrument. Data were analyzed using three methods: quantitative, qualitative, and diagnostic. Considering consensus agreement, the expected increase with age was not only clearly observable but also impressively regular. The growth in the proportion of exact responses was small but consistent. The cloze procedure results also correlated strongly with the results of a standardized reading test, indicating that children's perception of cohesion was a significant element in reading development. Rather than "retreat from print," secondary school teachers should pay attention to the cohesive property of texts when trying to help students bridge the gap from "learning to read" to "reading to learn." (JL)

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A Study in Reading Development: a comparison of the ability of 8, 10 and 13 year old children to perceive cohesion in their school texts

Paper presented to the 19th Annual Conference of the United Kingdom Reading Association, Newcastle-upon-Tyne Polytechnic, Newcastle.
July, 1982.

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A Study in Reading Development

One of the basic aims of education that is expressed by teachers either explicitly or implicitly through the way they organise their curriculum resources is that their pupils should become independent learners. In other words, whatever other benefits the curriculum may bring to young people, at the end of their school course they must have the capacity to acquire knowledge for themselves by themselves.

In the process of becoming an independent learner and when actually learning independently, visual language in whatever form, screened, book or other printed material will continue to play a large and significant part. The advent of micro-chip technology does not mean, as some may have assumed, that there will be less need for the skills of reading and the attendant information procesing. Rather these skills will probably be needed, albeit in a different form, to a higher degree. Children will need to become even more skilful to survive in a modern complex world.

It comes as a shock therefore to read in the report of the Schools Council Project, 'The Effective Use of Reading', (Lunzer and Gardner, 1979) of a 'retreat(ing) from print' in the lower secondary school. Indeed the situation is serious for the report states that:

> "for average and above-average pupils, the experience of meaningful reading across the curriculum becomes stabilized, or even regresses, at first year secondary level, and has a low priority throughout the pre-examination years" (page 135).

They go on to give some reasons for this state of affairs. The report suggests that,

> "teachers appear to be pessimistic about the virtues of reading"

The report says that there is a good reason for the pessimism shown by teachers, for it

> "may well be a pessimism borne out of experience - pupils may not show a high degree of proficiency in handling the printed word" (my italics) (page 135).

According to this report then teachers have become pessimistic about the ability of their pupils to read in order to learn and so achieve their curriculum purposes. And yet, the year before the report by Lunzer and Gardner the survey of Primary Education in England by H.M.I. (D.E.S. 1978) gives the impression that standards of reading in primary schools continue to rise:

> "During the course of this survey objective tests in reading were administered to a sample of 11 year old children. The results from these tests are consistent with a rising trend in reading standards between 1955 and 1976-77. This is supported by other findings from this survey which confirmed that teachers gave a high degree of priority to the teaching of basic reading skills. The work children were given to do in reading was more closely matched to their capabilitiies for all ages and all levels of ability than work in other areas of the curriculum" (pages 44/45).

However, there is a note of caution:

> "For the abler readers at all ages, there was little evidence that more advanced reading skills were being taught" (page 48).

In their recommendation headed "The Curriculum", H.M. Inspectors have this to say about the basic skills.

> "It is vital that the careful work already being done to ensure that children become literate should continue and be further developed..... For this to be achieved children need to be introduced to a wide range of reading materials in connection with many aspects of their work." (page 111).

On the surface at least there appears to be some discrepancy between the reading standards reached by primary children and those in the first year secondary. How then might this reversal of progress be explained?

It is important to note that as children move through the primary school there is a consistent curriculum aim which is to teach all children to read. Children in the primary years are doing just that, learning to read. During the later primary years however, there is a subtle but important change from "learning to read" to "reading to learn".

In curriculum terms, there has been a change in purpose from mastering a skill to using that skill for other purposes. Hardly ever is this change acknowledged explicitly. It remains implicit and many teachers have not recognised how significant this change is for, on entry into the secondary schools with its many subject specialisms the new entrants of average and above-average

ability are not expected to be still 'learning to read': they are expected to read for the purpose of subject learning. This for the secondary teacher, means acquiring the knowledge of my subject. Those who are not able to do this, those who are still 'learning to read' are, more often than not, classified as remedial readers and, apart from these, few secondary schools teach reading.

This change involves a second important factor. The move from 'learning to read' to 'reading to learn' means that children move, from reading mainly narrative texts to expository texts. Undoubtedly the main vehicle for teaching reading in the primary school is narrative texts or stories. Equally, the main text type in the secondary school is the expository text or text book.

There are considerable differences as Kathleen Perera has pointed out (this volume) between these text types and it is one thing to be reading a story and quite another to be following the text-book author's attempts to teach history, geography or mathematics or whatever the subject might be. In the former there is a recognisable story structure learned long since in early childhood to assist the anticipatory process so necessary for fluent reading. But this is not the case with the non-narrative or factual material. Here the structure, if detectable is not the same at all. In the primary school there is a heavy diet of story book material and little by comparison of factual material. Even some of the information books have

a text structure akin to the narrative: "A day in the life of" type of material.

It is obvious that there is a need for a further and deeper investigation into these problems for unless some of the answers are provided the retreat mentioned by Lunzer and Gardner may become rout; at least, the average or below average reader is a probable reading casualty.

As these reports came to hand, a research project, 'The Perception of Textual Cohesion' began at the Open University. Part of the research being carried out into 'Textual Cohesion' is longitudinal in nature and involves the age ranges being considered above i.e. children on either side of the age of transfer from primary to secondary schools. Some of the results of the first year of the research are now available and are illuminating the reading performance of many children.

Before giving some of these results however, it is necessary to give a little of the detail of the project, the numbers, ages and geographical location of the children helping with the research, the materials being used, and the measurement techniques being employed.

The Longitudinal Sample

The project has a dual design: a longitudinal exploratory survey and a series of in-depth studies. This paper discusses some of the preliminary findings of the longitudinal survey. There are 1,355 children in the sample, divided into three age cohorts 8, 10 and 13 years (see Table 1). The research

is following their progress in a number of ways for three years.

Table 1 about here

As will be seen from the table, two large L.E.A.'s are involved starting with twenty-three schools in the first year of the project. The sample was chosen so as to allow a comparison of town and country children although this is not a major interest of the investigation. The sample contains few children who are second language learners or children designated by the school to be remedial readers. It is thought that to investigate their problems would need firstly some idea of the 'normal' course of reading development for comparison and secondly detailed research as to the nature of particular problems. The sample then consists largely of children making at least average progress in their school reading programme, that is the majority are through the initial stages.

1. Materials

The booklets for junior children and two for secondary children have been specially prepared using extracts from some of the most frequently used texts in schools. One booklet contains factual material and one fictitious. The detail of these are specified elsewhere (Chapman, 1981a). Alongside these, standardised tests of reading and Ravens Progressive Matrices are also given for comparing the verbal and non-verbal abilities of the project children with a standardized sample. The extracts in the four specially prepared booklets were analysed for their cohesive properties and some 240 examples of cohesive ties from the four main groups of cohesive ties, Reference, Substitution,

Conjunction and Lexical Cohesion, were selected. One end of a cohesive tie, the presupposing was deleted and the children asked to replace the word or words that are presupposed. This gap-filling technique provides a very rich data base (see also Anderson 1982a) enabling a detailed investigation of reading development to be undertaken. The rationale of the technique is given in another paper (Chapman 1982a).

2. Methods of Measurement

Three methods of measuring the data are being used. The first method is quantitative in kind, the second qualitative and third diagnostic.

In this paper, space only permits a few illustrations. These are from the quantitative results only.

Method 1

The first method of measurement was designed by Anderson (1976) and yields amongst others, a measure for consensus (C), the number of different responses (Nd) and the proportion of exact responses (PM). In this case 'exact' is equivalent to matching the author's words (see Anderson 1982b).

Tables 2 and 3 illustrate this type of measurement which will be be new to most teachers. In Table 2 the item to which the children are responding is from one of the 'anchor' passages in the materials. (An anchor passage is one that appears in the Booklets across the age groups, allowing comparisons to be made ahead of the longitudinal data being assembled).

Table 2 about here

For this one deletion the measurement technique reveals the incremental progression expected as chronological age increases. The measure can be used also with groups of various sizes e.g. a complete age group in a large project as here, or an age group within a school or a small class group. This versatility allows a series of comparisons to be made. For example, in Table 3 the children in school A had a higher level of agreement in their responses than did those in School B. There were 21 different responses made by the 93 children in School A with some 43% (PM = 0.43) producing exact replacements. Whereas in School B, 114 children provided 34 different responses with only 25% (PM = 0.25) giving the author's word as their responses.

Table 3 about here

This raises an important point; it is possible for a group to show a high level of agreement without that consensus involving the author's preferred word. To explain this involves the second method of presenting the results, which is also illustrated at this conference by Anderson (1982a). The consensus measure takes into account all cases of response frequency above 1. This is because an individual answer cannot be said to show agreement with another. Omissions also do not contribute to consensus.

Method 2

As the frequency count lists all responses they can be used as the basis for the second qualitative approach. This takes the presupposition property of cohesion and positions the response on a reading development continuum. It is suggested that readers will be at different positions along such a continuum according to the level of difficulty of that part of the text being read. This being so, it will be possible to analyse each group's responses according to their position on the continuum for each deletion. Four continuum positions are proposed. The detail of this is given in Chapman (1982a). The first position (P1) will cover omissions, undecipherable spellings, responses that fall within the visual peripheral field (Goodman, 1975) and those that are unacceptable in one clause element. It is then possible following the rank scale of systemic grammar (see Berry 1975, p.105) to increase the context element by element testing the word rigorously against increasing amounts of context. Responses showing these features (i.e. acceptable in more than one clause element) will fall into Position 2 (P2). Position 3 (P3) is reserved for responses acceptable in the clause in which the deletion occurs but also showing evidence of the - cohesion factor. The word or words may not however be the author's choice. Position 4 (P4) is reserved for exact replacements (PM). The four positions are illustrated in Figure 1

Figure 1 about here

For the teacher these ways of presenting the results should a) give a notion of the level of agreement within the group regarding the resolution of the cohesvie tie in question,

b) give a detailed account of the quality of responses of any particular group of children. This presentation, especially with the lexical cohesion ties, gives information about the underlying dimensions of the semantic field or field of discourse created by the responses. It also allows any group or individual to be placed along a reading development continuum.

Longitudinal Survey Year 1

The table below shows the consensus (C), Number of different responses (N_D) and the Proportion of Exact responses (PM) for 3 substitute items.

Table 4 about here

Taking the consensus (C) figures first, the expected increase with age on these three substitutions is clearly observable. Although expected, the regularity of these and other consensus measures is impressive. When the number of different responses (N_D) is observed, the decrease expected with age can also be observed. The other measure quoted is that of the exact replacement of the author's word (PM). This again is consistent but the growth tends to be very small compared with the consensus measure and in one case 'Did' the measures are fairly low. Initially three points can be made. Firstly, in these three cases of substitution items, 'One, 'Did' and

'So' the proportion of exact replacements is small especially when the frequency with which they are used in everyday language is recalled. Secondly, the slow rate of growth between the results of the 8 and 10 year old groups especially on the nominal substitute 'One' is surprising. Thirdly the decrease in the number of different responses indicate that the children are becoming increasingly aware of the constraints prevailing on what is permissible in texts.

The graphs in Figure 2, show the consensus and the proportion of exact replacement made by the three age groups to eight deletions. (This data is taken from the overlap passages).

Figure 2 about here

There is an overall increase in the consensus of the groups as to the identity of the missing word. Some useful comparison can be made here, for example, 'so' as a clausal substitute (5) can be compared with 'so' (6) as a conjunction. Or again the clausal substitute 'so' (5) can be compared with the nominal substitute 'one' (2). Again the stability of the results is indicated by the expected increase in score with age. It should be noted that at age thirteen the highest proportion of exact matches reached is 0.89, with the clausal substitute 'so' . Whereas with the causal conjunction 'so' the PM figure is much lower (0.3). This is an important finding for here, the ability or inability to produce the two letter word 'so' is probably indicating the semantic difference carried by the cohesive ties: the clausal substitute being more

readily perceived than the causal conjunction. Some results are very low indeed.

In addition to these analyses by chronological age the results have been analysed for reading ability as measured by a much used standardised test so that questions like do the readers scoring high on a standardised reading test also have superior scores on the cohesion materials? This, in the main, is so. This can be seen from the results of the ten year old groups from one L.E.A. Here the children are placed into three groups by standard reading test scores giving high (H), middle (M) and low (L) reading ability groups. If the cohesive tie completion results of these groups are compared quantitatively and qualitatively a little of the importance of cohesion in the reading process is suggested.

Figure 3 about here

In Figure 4 the histograms show the proportion of exact replacements made by the children. The item concerned is a nominal substitute 'one'. The proportions are remarkably consistent both by age groups and reading ability. The highest proportions being attained by the 8 year old high ability readers (0.37). These results prompt the question as to what were the characteristics of the responses of the others.

Figure 4 about here

In Figures 4 and 5 the responses are analysed according to the four positions along the reading development

continuum (Figure 1). Figure 4 shows the percentage of responses falling in P1 and P2, that is responses not showing evidence of cohesion but fitting in most cases, the constraints of the clause only. Here the ycunger children's responses predominate with little evidence of the 10 and 13 year olds responses. In Figure 5 however the difference is very apparent. Those high in reading

Figure 5 about here

ability have evidence of cohesion in their answers. The 13 year olds in particular have proportions reaching 0.93 cohesive responses. The middle reading group of 10's and 13's also have proportion scores above 0.80 as do those of low reading ability in these age groups. It is the younger readers who are least able to produce cohesive responses especially those of average and below reading ability. (It is interesting to note in passing that this text is from those chosen from those mostly frequently occurring with the younger ages groups).

These results give every indication that when children's perception of cohesion is considered, it is found to be a significant element in reading development. As these results are further analysed there is evidence of increasing validity of the materials and methods. The research is yielding some very important insights into reading growth.

Further Comments

At the beginning of this paper a major problem related to reading across the curriculum in the secondary school

was raised and some of the factors involved were examined.

The problem might be restated as follows: it appears that secondary teachers, whose concerns are to teach subject content, are pessimistic regarding their pupils ability to learn from text books. This is reflected in their classroom behaviour which has been described as "retreating from print". This is obviously detrimental to a major aim of the school curriculum that of creating independent learners.

The causes of this situation are located on both sides of the transfer age in schools. Firstly, in the primary school the reading drive has been learning to read and only incidentally reading to learn. The concomitant of learning to read is the narrative text, which is not the main text type used during reading to learn. In most secondary schools there is rarely a curriculum aim to teach reading as such, the skill is assumed to be present. However today's reading educators now considered reading to be a developmental process whose growth continues into the secondary schools and beyond. As such it needs consistent teaching support else that which has grown so far will wither (see Chapman 1982b). But what are the characteristics of the development during these late primary and secondary years? The research, and only a fraction has been presented shows some of the fascinating detail of this development. In broad terms the results of the qualitative measurements, which spell out the quantitative, show that it is the nature of the text's cohesive property that requires the attention of teachers. Although the process entails the linguistic

features of the clause it is its basic semantic function that becomes increasing important. In order to recreate the author's meaning, the reader has to maintain two systems simultaneously, reading the clauses and integrating their meanings. Where to integrate and what to integrate is signalled by the cohesive ties. And it is the orderly presentation of the cohesive tie system by Halliday and Hasan (1976) that now enables researchers and teachers to study problems of reading growth throughout schooling. It is becoming clear that it is the semantic integration provided by the cohesion of the text that is the main factor that characterises later reading. It is known, for example, that the patterning ofthe cohesive ties varies with the author's style (Gutwinski 1976) and there are obvious differences in cohesive patterns between text types. Children unfamiliar with these differences and not having been alerted to the cohesion that they have in common will be at a disadvantage. The pluri-functional nature of the words involved (e.g. 'So') also needs to be recognised and children helped or they will find it increasingly difficult to read to learn from the texts put before them for a variety of (subject) curriculum purposes. A gentle introduction to these cohesive features, perhaps the main problem of reading instruction today, is provided in Chapman (1982b).

References

Anderson, J. (1976) Psycholinguistic Experiments in Foreign Language Testing. St. Lucia. University of Queensland Press.

Anderson, J. (1982a) The Writer, the Reader and the Text. Paper presented at the 19th Annual U.K.R.A. Conference. Newcastle-upon-Tyne Polytechnic, Newcastle.

Anderson, J. (1982b) The measurement of the perception of cohesion: a second language example. Paper presented to the Ninth World Congress of Reading, Dublin.

Berry, M. (1975) An Introduction to Systemic Linguistics. 1. Structures and Systems. London, Batsford.

Chapman, L.J. (1981a) The Perception of Textual Cohesion. Report to D.E.S. No. 3. The Open University. (Unpublished).

Chapman, L.J. (1981b) The Development of the Perception of Textual Cohesion. Paper presented at the 25th Annual I.R.A. Convention, St. Louis. (ERIC ED 192 260).

Chapman, L.J. (1982a) Cohesion and Language Experience. Paper presented to the Language Experience Special Interest Group of the International Reading Association. 27th Annual I.R.A. Convention, Chicago.

Chapman, L.J. (1982b) Reading Development and Cohesion. London. Heinemann.

D.E.S. (1978) Primary Education in England. A Survey by H.M. Inspectors of Schools. London, HMSO.

Goodman, K.S. (1975) Influences of the Visual Peripheral Field in Reading. Research in the Teaching of English. 9 (2), Fall, 1975, 210-222.

Gutwinski, N. (1976) Cohesion in Literary Texts. The Hague, Mouton.

Halliday, M.A.K. and R. Hasan (1976) Cohesion in English. London, Longman.

Lunzer, E. and K. Gardner (1979) (Eds.) The Effective Use of Reading. London. Heinemann.

Table 1

Total Sample N = 1355

Cohort 1 (8+ years) N = 436
Cohort 2 (10+ years) N = 474
Cohort 3 (13+ years) N = 445

Sample by L.E.A.

Birmingham

Cohort 1 N = 252
Cohort 2 N = 332
Cohort 3 N = 277
861

Cambridgeshire

Cohort 1 N = 184
Cohort 2 N = 142
Cohort 3 N = 168
494

Sample by School

Birmingham

Cohort 1.

School	6	N = 49	252
"	7	N = 56	
"	8	N = 91	
"	9	N = 56	

Cohort 2

School	7	N = 114	332
"	8	N = 92	
"	9	N = 126	

Cohort 3

School	3	N = 75	277
"	4	N = 82	
"	5	N = 120	

Cambridgeshire

Cohort 1

School	1	N = 54	184
"	2	N = 38	
"	3	N = 31	
"	4	N = 48	
"	5	N = 13	

Cohort 2

School	1	N = 16	142
"	2	N = 39	
"	3	N = 26	
"	4	N = 28	
"	5	N = 24	
"	6	N = 9	

Cohort 3

School	1	N = 128	168
"	2	N = 40	

Birmingham Cohorts = 861

Cambridgeshire Cohorts = 494

Table 2

Consensus on the temporal conjunction 'then' (Item 3.13) according to chronological age.

AGE	CONSENSUS	N
8 years	0.48	436
10 years	0.58	474
13 years	0.62	445

Table 4

Quantitative (Group Data) for Anchor passage in Booklets 1 and 3 showing Consensus (C), Number of Different Responses (N_D) and Proportion of Exact Responses (PM) for 3 substitute items by 3 age groups.

Substitute Item: 'One'	C	N_D	PM
Cohort 1	39	84	27
Cohort 2	54	62	27
Cohort 3	64	38	36

Substitute Item 'Did'	C	N_D	PM
Cohort 1	30	94	7
Cohort 2	39	83	19
Cohort 3	47	63	34

Substitute Item 'So'	C	N_D	PM
Cohort 1	65	41	64
Cohort 2	77	37	76
Cohort 3	88	21	89

Key

Cohort	Age	N
1	8+ yrs	436
2	10+ yrs	476
3	13+ yrs	445

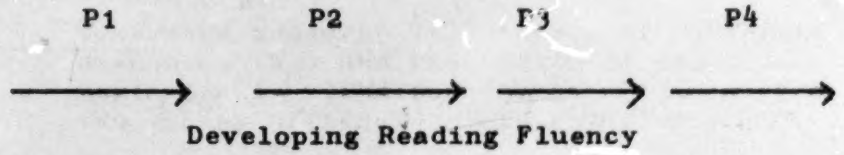
Table 3

Consensus measures (C), Number of Different Responses (N_D) and Proportion of Exact Replacement (PM) for one item (3.13) from two groups of ten-year-old children.

School	Consensus	N_D	PM	N
A	0.53	21	0.43	93
B	0.42	34	0.25	114

Figure 1

Reading Development (RD) Continuum Positions



P1 responses

Omissions, undecipherable spellings, words falling in the visual peripheral field not associated with the cohesive tie and unacceptable responses to the extent of one clause element.

P2 responses

Words satisfying the context from one clause element up to a full clause but without evidence of cohesion.

P3 responses

Words satisfying the condition of a clause together with evidence of cohesion but not the author's word.

P4 responses

Exact replacement of the author's word.

Figure 2

Longitudinal Survey: Year 1 data consensus (C) and proportion of exact matches (PM) for 8 items by the 13+ cohorts.

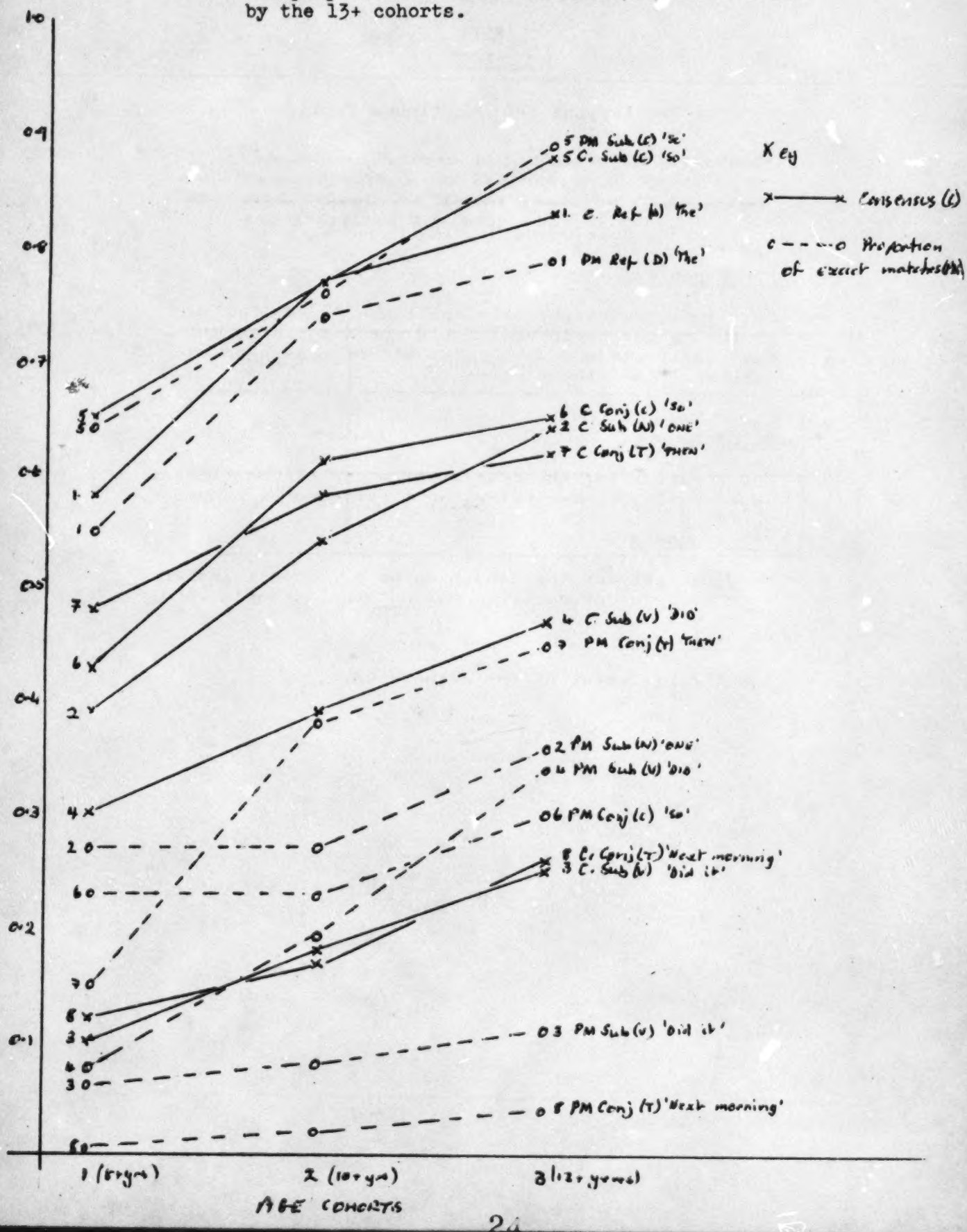


Figure 3

Cambridgeshire Data. Item 1.52/3.15

% of H.M. and L groups (Read Ability) making correct replacements.

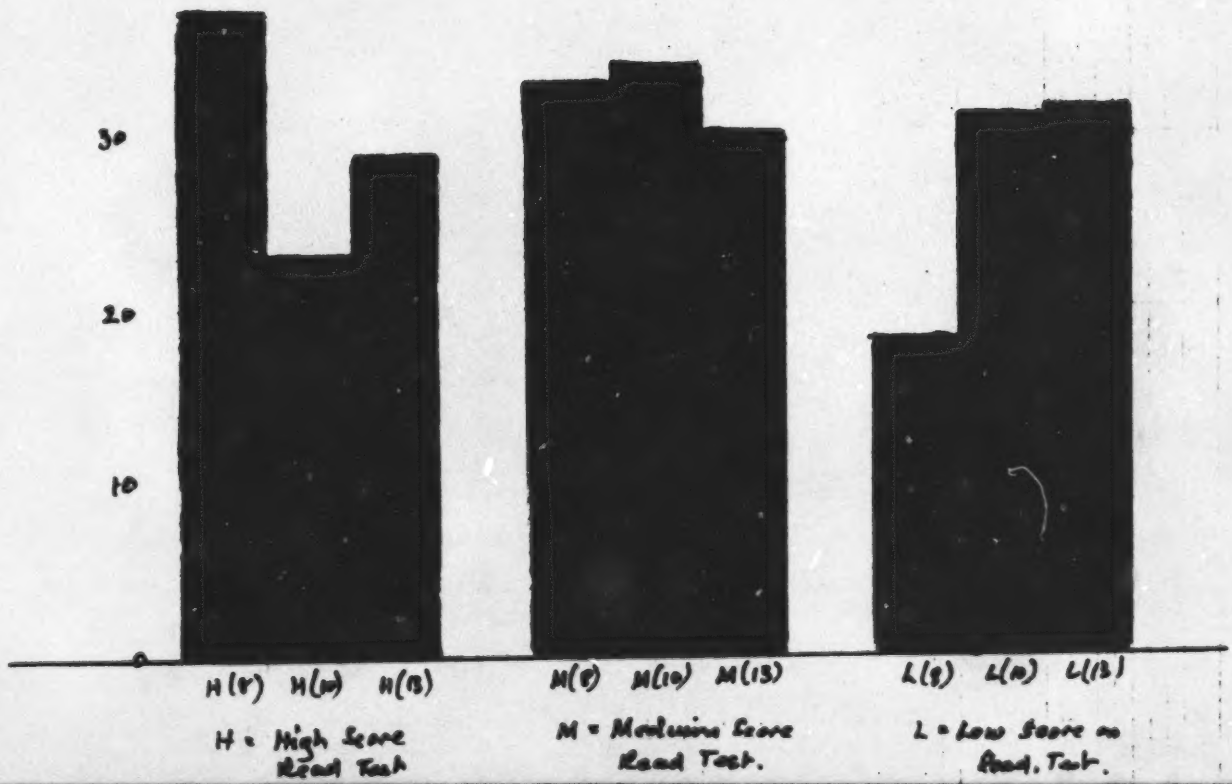


Figure 4

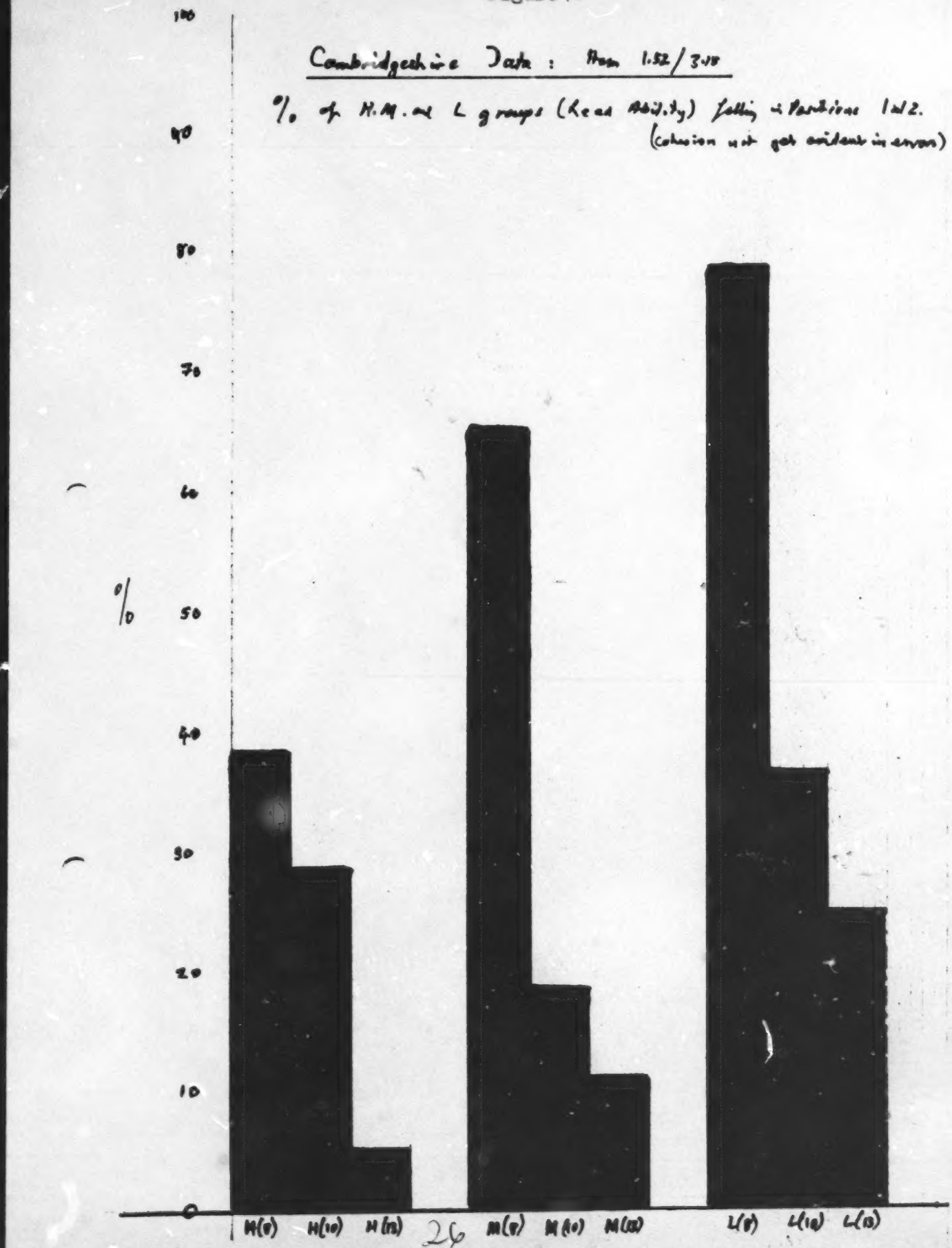
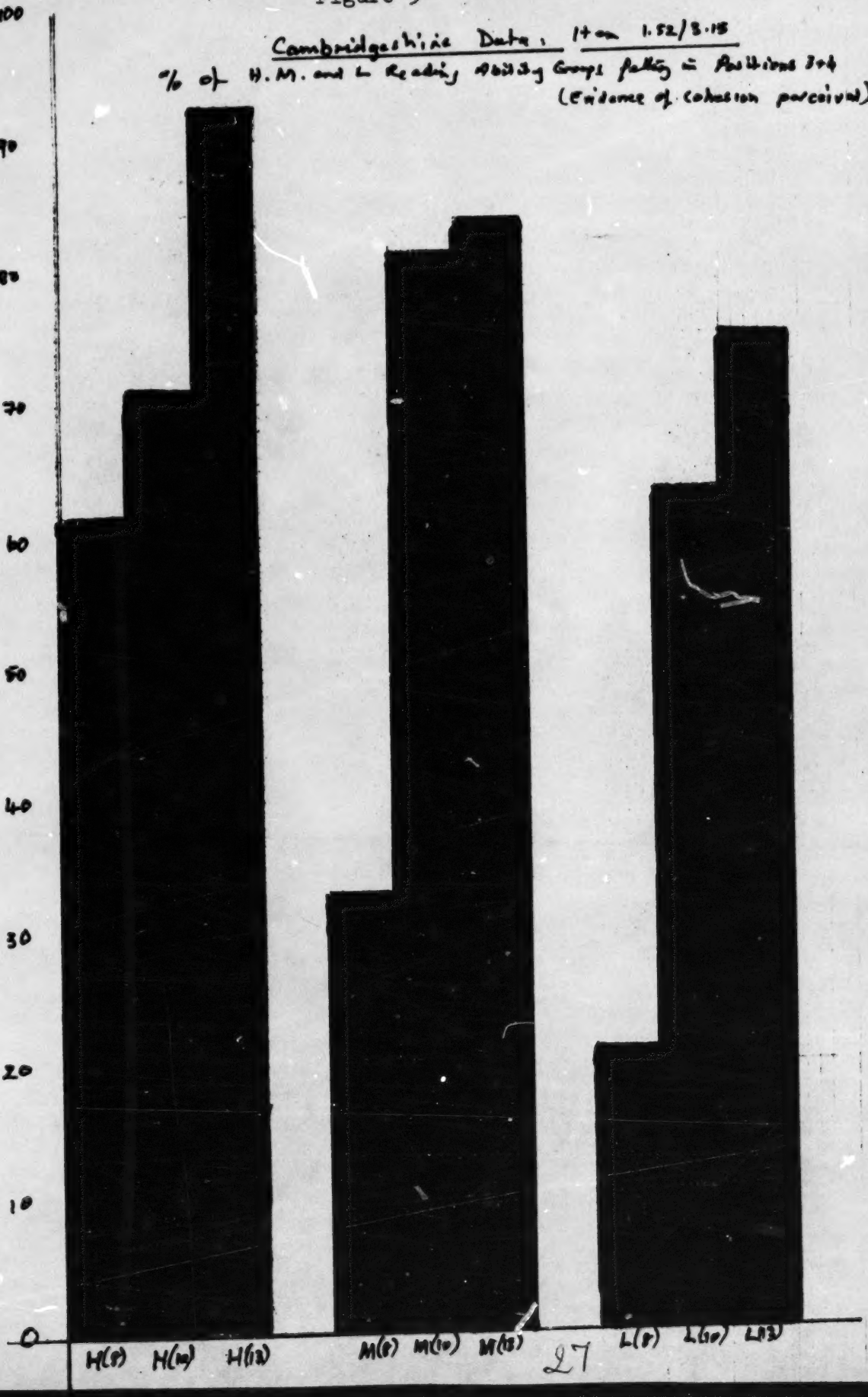

Cambridgeshire Data : Term 1.52 / 3.18
% of H.M. and L groups (Reading Ability) falling in Partitions 1 and 2.
(calculation not yet evident in errors)
100
90
80
70
60
50
40
30
20
10
0
%
H(8)
H(10)
H(12)
M(8)
M(10)
M(12)
L(8)
L(10)
L(12)

Figure 5


Cambridgeshire Data: Item 1.52/3.15
% of H. M. and L Reading Ability Group Pupils Passing in Positions 3+4
(Evidence of cohesion perceived)
100
90
80
70
60
50
40
30
20
10
0
%
H(8) H(10) H(12)
M(8) M(10) M(12)
L(8) L(10) L(12)